Docket No. BOC9-1999-0092 (145)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of Brocious, *et al.*

Serial No.:	09/770,577	Examiner:	Smits, Talivaldis I.
Confirmation No.:	7601		
Date Filed:	January 26, 2001	Group:	2641
For:	SPEECH AUTO-COMPLETION FOR PORTABLE DEVICES		

DECLARATION UNDER 37 C.F.R. § 1.131

Commissioner for Patents
Washington, DC 20231

Sir:

I, Larry A. Brocious, a citizen of the United States of America, residing at 5402 Pennsylvania Avenue, Apalachin, NY 13732, hereby declare and state as follows:

1. I was employed by International Business Machines Corporation (IBM) in Armonk, New York at the time the above-identified application was conceived. I make this declaration in support the above-identified application.

2. IBM had invested substantial time and effort into the research, development, and marketing of their products, and in an effort to protect its rights in all new inventions, IBM requests that all employees prepare and submit confidential Invention Disclosure Forms upon conception by the inventor(s).

3. As a named co-inventor for this invention, I submitted the attached Invention Disclosure No. BOC8-1999-0095 together with my co-inventors, Jonathan L. Gabel, David C. Loose, Ronald Van Buskirk, Huifeng Wang and Steven G. Woodward.

4. I make this Declaration to establish that the other co-inventors and I conceived of the present invention at least as early as August 18, 1999, and exercised due diligence from that date to January 26, 2001, the filing date for the above-identified patent application.

5. I further declare that all statements made herein of my own knowledge are true and all statements made on information and belief are believed to be true and

Certificate Under 37 CFR 1.8(a)

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, Washington, DC 20231, or facsimile transmitted to the U.S. Patent and Trademark Office or the date shown below.

9/2/03
Date

Kevin T. Cuenot, Esquire, Reg. No. 46,283

{WP137704;2}

further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment or both under Section 1001 of Title 18 of the United States Code, and that such willful, false statements may jeopardize the validity of the above-identified patent application or any patent issuing thereon.

Larry A. Brocious

Larry A. Brocious

Date: 7/29/03

STATE OF NEW YORK)
) ss:
COUNTY OF Broome)

The foregoing instrument was sworn to and subscribed before me this 29th day of July, 2003, by Larry A Brocious, who is personally known to me or who has produced IBM badge (type of identification) as identification.

Bethany Jayne Fitzpatrick

NOTARY PUBLIC, STATE OF NEW YORK

Bethany Jayne Fitzpatrick

(Print, Type or Stamp Commissioned Name of Notary Public)

BETHANY JAYNE FITZPATRICK
Notary Public, State of New York
No. 4944423
Residing in Broome County
My commission expires 11-21-04

Disclosure BOC8-1999-0095

Created By: Ron Van Buskirk **Created On:** 08/11/99 12:37:08 PM
Last Modified By: Ron Van Buskirk **Last Modified On:** 08/18/99 04:56:18 PM

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Required fields are marked with the asterisk (*) and must be filled in to complete the form .

Summary

Status	Under Evaluation
Processing Location	BOC
Functional Area	Speech Development & Customization (O. Osborne)
Attorney/Patent Professional	Richard Tomlin/Boca Raton/IBM
IDT Team	Tom Rutherfoord/West Palm Beach/IBM
Submitted Date	08/13/99 04:54:55 PM
Owning Division	SWG Add/Change
PVT Score	To calculate a PVT score, use the 'Calculate PVT' button.

Inventors with Lotus Notes IDs

Inventors: Ron Van Buskirk/West Palm Beach/IBM, Larry Brocious/Endicott/IBM, David Loose/Austin/IBM, Steve Woodward/West Palm Beach/IBM, Jonathan L Gabel/Charlotte/IBM, Huifang Wang/West Palm Beach/IBM

Inventor Name > denotes primary contact	Inventor Serial	Div/Dept	Manager Serial	Manager Name
> VanBuskirk, R.E. (Ron)	689867	9T/A26A	375209	Nassiff, Amado
Brocious, L.A. (Larry)	313412	45/TMTG	807623	Kittle, B.M. (Betty)
Loose, D.C. (David)	458340	45/MD7A	162624	Maieli, Michael V.
Woodward, Steven G. (Steve)	577183	9T/A26A	375209	Nassiff, Amado
Gabel, Jonathan L.	2A5029	45/UTXA	414862	Bettegowda, B. N.
Wang, Huifang	845300	9T/A26A	375209	Nassiff, Amado

Inventors without Lotus Notes IDs

IDT Selection

IDT Team:	Attorney/Patent Professional:
Tom Rutherfoord/West Palm Beach/IBM	Richard Tomlin/Boca Raton/IBM

Response Due to IP&L : 09/17/99

Main Idea

***Title of disclosure (in English)**
Speech Autocompletion For Embedded Devices

***Idea of disclosure**
1. Describe your invention, stating the problem solved (if appropriate), and indicating the advantages of using the invention.
One of the problems with small handheld devices is that it is difficult to enter data into them because they do not have a full-size keyboard. Speech recognition is an excellent solution. Unfortunately speech recognition on small devices is often limited because of the low processing power that these devices have. A speech recognition engine might support 200 phrases but this doesn't help if the user has to select from

a list of 1000 possibilities.This invention allows the user to manually filter a large list of possibilities by using a slower, entry method until the list has been filtered down to a small enough set for an embedded speech recognition engine to allow the user to select from by voice.

This method is much faster than many text entry methods currently employed.

2. How does the invention solve the problem or achieve an advantage,(a description of "the invention", including figures inline as appropriate)?
As an example of the invention imagine if the user had to pick a street name from a city such as Miami which has 10,000 street names, but the recognizer only can contain 250 entries. The user would be prompted to input data with a slower alphabetic entry method (handwriting recognition, speech alphabet spelling, on-screen keyboard, menu selection, etc.) If the user's destination was a street called Poinciana Blvd they would begin by entering P - O -.... As they entered each letter it would narrow down the possibilities. For example there are 1,000 streets that begin with P, and 125 streets that begin with PO.

When the number of streets was sufficiently narrowed by entering the text, it would preferably beep, or otherwise notify the user that at any point they could speak the rest of the phrase rather than going through the cumbersome text entry method.

3. If the same advantage or problem has been identified by others (inside/outside IBM), how have those others solved it and does your solution differ and why is it better?
Others have solved the problem of selecting from a list with an embedded recognizer with limited processing power with three methods:

(1) By forcing the user to spell out the word, using either a military alphabet or using the standard alphabet and matching the recognized letters to the closest match in the database.

(2) Through the use of a set of menus.

(3) By forcing the user to use only manual entry.

4. If the invention is implemented in a product or prototype, include technical details, purpose, disclosure details to others and the date of that implementation.
Not implemented to date.

***Critical Questions (Questions 1 - 7 must be answered)**

***Question 1** On what date was the invention workable? 08/03/99 **Please format the date as MM/DD/YYYY** (Workable means i.e. when you know that your design will solve the problem)

***Question 2** Is there any planned or actual publication or disclosure of your invention to anyone outside IBM?	○ Yes ● No
If yes, Enter the name of each publication or patent and the date published below. Publication/Patent: Date Published or Issued:	
Are you aware of any publications, products or patents that relate to this invention?	○ Yes ● No
If yes, Enter the name of each publication or patent and the date published below. Publication/Patent: Date Published or Issued:	

***Question 3** Has the subject matter of the invention or a product incorporating the invention been sold, used internally in manufacturing, announced for sale, or included in a proposal?	○ Yes ● No
Is a sale, use in manufacturing, product announcement, or proposal planned?	○ Yes ● No
If Yes, identify the product if known and indicate the date or planned date of sale, announcements, or proposal and to whom the sale, announcement or proposal has been or will be made. Product: Version/Release: Code Name: Date: To Whom: If more than one, use cut and paste and append as necessary in the field provided.	

***Question 4** Was the subject matter of your invention or a product incorporating your invention used in public, e.g., outside IBM or in the presence of non-IBMers?	○ Yes ● No
If yes, give a date. **Please format the date as MM/DD/YYYY**	

***Question 5** Have you ever discussed your invention with others not employed at IBM?	○ Yes ● No
If yes, identify individuals and date discussed. Fill in the text area with the following information, the names of the individuals, the employer, date discussed, under CDA, and CDA #.	

***Question 6** Was the invention, in any way, started or developed under a government contract or project?	○ Yes ● No ○ Not sure
If Yes, enter the contract number	

***Question 7** Was the invention made in the course of any alliance, joint development or other contract activities?	○ Yes ● No ○ Not Sure
If Yes, enter the following :Name of Alliance, Contractor or Joint Developer	
Contract ID number	
Relationship contact name	
Relationship contact E-mail	
Relationship contact phone	

Question 8 Have you submitted, or are you aware of, any related disclosure submission?	○ Yes ● No
If Yes, please provide the title and docket or disclosure number below:	

Question 9

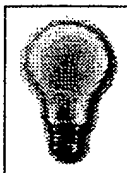
What type of companies do you expect to compete with inventions of this type? *Check all that apply.*

- ☐ Manufacturers of enterprise servers
- ☐ Manufacturers of entry servers
- ☐ Manufacturers of workstations
- ☐ Manufacturers of PC's
- ☒ Non-computer manufacturers
- ☐ Developers of operating systems
- ☐ Developers of networking software
- ☒ Developers of application software
- ☐ Integrated solution providers
- ☐ Service providers
- ☒ Other (Please specify below)

Embedded device manufacturers

Patent Value Tool (Optional - this may be used by the inventor and attorney to assist with the evalu
Post Disclosure Text & Drawings

(Form Revised 12/17/97)



IP&L Disclosure Evaluation: BOC8-1999-0095

Created By: Tom Rutherfoord **Created On:** 12/09/99 03:13:46 PM
Last Modified By: Tom Rutherfoord **Last Modified On:** 12/09/99 03:19:51 PM

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Required fields are marked with the asterisk (*) and must be filled in to complete the form .

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Title : Speech Autocompletion For Embedded Devices

Response Due to IP&L :	**Date Evaluation Submitted :**
09/17/99	**12/09/99**

Evaluator Disclosure Instructions

FACTOR 1 **TECHNICAL CONTRIBUTION** (Consider all Known publications/products - IBM and External)	○ Subject Matter not new ● Minor Variation from Known technology ○ Significant Departure from Known technology ○ Major Advance in technology
Reason (s) for above Answer (please specify any technology known to the inventor or the evaluator and explain its relevance)	authors mention pre-existing methods

FACTOR 2 - CHARACTER OF PROBLEM SOLVED	○ No real problem existed ○ Minor problem. Suitable alternatives available ● Significant problem. Alternatives have drawbacks ○ Major problem. No feasible alternatives
Explain the problem , including describing alternatives and their drawbacks , and any advantages of this invention . What is the most important aspect of the disclosure and the most important advantages/disadvantages in your view?	Embedded devices lack resources to support large-vocabulary speech recognition. Authors present clever method of getting hints from end user that winnow the vocabulary. This makes something possible that otherwise would not be. Another of looking at it: this new method achieves higher accuracy, as hints from end user tell embedded device which words to ignore when trying to match voice input to internal vocabulary.
Do others beside IBM face the problem?	● Yes ○ No
Why so ?	anyone using embedded devices for do something that has large vocabluary

FACTOR 3 - USE BY IBM	● Unlikely ○ Probable ○ Very likely ○ Definite
Reason(s) for above answer : (Be specific . If use is Probable or Definite, specify product, version etc.)	

FACTOR 4 - USE BY OTHERS	○ Unlikely ● Probable ○ Very likely ○ Definite
Reason(s) for above answer : (If use is Probable or Definite, please specify why the innovation will be used by others, which type of companies and which type of products).	handheld devices that do voice reco will benefit from this method, if they support applications with large vocabularies - proper names (people, cities, streets) especially

FACTOR 5 - DISCOVERY OF NON-IBM (NI) USE	○ NI must admit use for IBM to know ○ "Teardown" of NI product would be necessary ○ Careful analysis of NI product or manual required ● Use obvious to casual observer
Reason(s) for above answer (how would we detect use of invention by others)?	authors describe a user input method, observable by all

FACTOR 6 - ADEQUACY OF DESCRIPTION	○ Inadeqate. Invention unclear from description ○ Incomplete.Invention aspect poorly described or obscure ○ Further clarification or implementation detail needed ● Clear and complete as is
Reason(s) for above answer.	

FACTOR 7 - PEOPLE CONSULTED	
Inventors (s)	○ Yes ● No
If "No" , please give the reason(s) why inventor(s) were not consulted.	clearly presented as is
Name others consulted:	
Discussed evaluation and recommendation with inventors?	○ Yes ● No

Evaluator Decision Instructions

Evaluator Recommended Decision :	○ Close ○ Publish ● Search

☐ Additional Search Info: This disclosure should be MERGED before searching and filing with disclosure (s)

Comments:

Note : Limit your comments to technical/business issues

(Form Revised 12/17/97)